

AIR WAR COLLEGE

AIR UNIVERSITY

# HIGH-PERFORMING PRIMARY CARE TEAMS: CREATING THE AIR FORCE MEDICAL HOME ADVANTAGE

by

Theresa B. Goodman, Lt Col, USAF, MC

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: John Carter, Col (Ret.), USAF

17 February 2015

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>17 FEB 2015</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2015 to 00-00-2015</b>	
4. TITLE AND SUBTITLE <b>High-Performing Primary Care Teams: Creating The Air Force Medical Home Advantage</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Air War College, Air University,,Maxwell AFB,,AL</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT <b>Healthcare institutions throughout the country are striving to become high-reliability organizations (HRO). These HROs promise to deliver better health, improved patient experience and better value. A critical contributor to healthcare HROs is high-performing primary care teams. The Air Force Medical Service must establish an environment that allows for highperforming primary care teams to flourish.</b>					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>32</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## **DISCLAIMER**

The views expressed in this academic research paper are those of the author and do not reflect the official policy or position of the US government, the Department of Defense, or Air University. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.



## **Biography**

Lieutenant Colonel Theresa Goodman is a U.S. Air Force Physician assigned to the Air War College, Air University, Maxwell AFB, AL. She graduated from the University of Washington in 1995 with a bachelor of science degree in Cell and Molecular Biology, Uniformed Services University in 1999 with a medical doctorate, and Harvard University in 2009 with a master of public health degree with a concentration in international health. She is board certified in 3 medical specialties and is a graduated squadron commander.



## **Abstract**

Healthcare institutions throughout the country are striving to become high-reliability organizations (HRO). These HROs promise to deliver better health, improved patient experience, and better value. A critical contributor to healthcare HROs is high-performing primary care teams. The Air Force Medical Service must establish an environment that allows for high-performing primary care teams to flourish. The ability for a team to adopt high-performance elements varies substantially and a review of the available healthcare and teamwork research as well as the doctrine, reports and policies of current Air Force primary care, spotlights many barriers to organizational transformation into high-performing teams and HROs. This paper argues that the AFMS should continue its transformation by addressing three barrier themes: (1) obstacles to team cohesion, (2) lack of consistent and effective communication, and (3) poor organizational support for teams which impedes full implementation and adoption by all members. A foundation of process trust through standardization, supported by a re-engineered training platform and enabled by an alignment of goals, incentives and outcomes, is key to creating the Air Force Medical Home-field advantage.

## Introduction

In 1999, the Institute of Medicine released its report, “To Err is Human” highlighting the large number of preventable medical errors existing in the U.S. healthcare system.<sup>1</sup> The report outlined that, “many of the errors in healthcare result from a culture and system that is fragmented, and that improving healthcare needs to be a team sport.”<sup>2</sup> While much attention and research has gone to improve healthcare, issues of patient safety and quality continue to be debated and most recently attained national concern with respect to care and treatment of our veterans.<sup>3</sup> In light of the quality concerns for the Veterans Affairs (VA) medical system, the Secretary of Defense ordered the Department of Defense (DoD) to conduct a complete review of the Military Health System (MHS) to assess if, “1) access to medical care in the MHS meets defined access standards; 2) the quality of healthcare in the MHS meets or exceeds defined benchmarks; and 3) the MHS has created a culture of safety....”<sup>4</sup> Although the results of this system wide review showed that the MHS was on-par with the U.S. civilian sector, it also highlighted the significant intra-system variability in the above markers and recommended “system enhancements to...drive change that will foster creation of a high-reliability health system.”<sup>5</sup>

Healthcare institutions throughout the country are striving to become high-reliability organizations (HROs), defined as, “organizations that exist in such hazardous environments where the consequences of errors are high, but the occurrence of error is extremely low.”<sup>6</sup> Healthcare HROs promise to deliver the “Triple Aim of better health, improved patient experience, and more affordable costs”<sup>7</sup> and a critical aspect of healthcare HROs is high-performing primary care teams.<sup>8</sup>

Increased utilization of and effective care by, primary care teams have been shown to increase quality and decrease the cost of healthcare.<sup>9</sup> Therefore, it follows that concentration on maximizing the effectiveness of the primary care team within the MHS and more specifically, within the Air Force Medical Service (AFMS), will pay huge dividends toward the AFMS attainment as an HRO. Lt Gen Travis's (the current AF Surgeon General) vision outlined in early 2014 states "our supported population is the healthiest and the highest performing segment of the U.S. by 2025."<sup>10</sup> In order to attain this vision, the AFMS must, first, establish an environment that allows for high-performing primary care teams to flourish. While lessons are learned from the civilian healthcare sector, the distinct aspects of the Air Force Medical Service create additional barriers to high-performing teams. This paper argues that a foundation of process trust through standardization, supported by a re-engineered training platform and enabled by an alignment of goals, incentives and outcomes, is key to creating the Air Force Medical Home-field advantage.

### **Elements of High Performing Primary Care Teams**

What differentiates a team from a group of people is that "a team is a group with a specific task or tasks, the accomplishment of which requires the interdependent and collaborative efforts of its members."<sup>11</sup> High-performing medical teams are defined by the marriage of team cohesion, patient satisfaction and safety and improved medical outcomes. Research on the development of high-performing primary care teams yields many key building blocks which are summarized as the following six elements: (1) a shared goal of patient centered, quality health care, (2) clearly defined roles and responsibilities of each member, (3) continuous communication, (4) pertinent/deliberate training for each individual and the team, (5) systems and standardized protocols in place to allow for maximum team member participation and

engagement and (6) flexibility for innovation to perpetuate a culture of safety and continuous improvement.<sup>12</sup>

Knowledge of high-performing team elements is insufficient to transform a group's effort into effectiveness. The ability for a team to adopt the above elements varies substantially and a review of the available healthcare and teamwork research as well as the doctrine, reports and policies of current Air Force primary care, spotlights many barriers to organizational transformation into high-performing teams and HROs. A complete list of barriers and their solutions is vast and, to date, still an area of continued research.<sup>13</sup> This paper argues that the AFMS should continue its transformation by addressing three barrier themes: (1) obstacles to team cohesion, (2) lack of consistent and effective communication, and (3) poor organizational support for teams that impedes full implementation and adoption by all members.<sup>14</sup> These themes were selected due to their common citation as obstacles, their applicability to the Air Force Medical Home (AFMH), and acknowledgement of the consistent issue of primary care team instability due to military unique readiness requirements.

The key elements of high-performing teams are not mutually exclusive and modifying some of the elements help to foster the others. By concentrating on effective communication and improving team cohesion through the clarification of roles and responsibilities via standardized processes, the AFMS can foster the sharing of team goals and allow for the open-honest feedback required within a team to inspire a culture of safety and continuous improvement.

## **Barriers**

### **Barriers to Primary Care Team Cohesion**

Effective teams demonstrate a high level of cohesion. Underpinning this cohesion is a foundation of "mutual trust...defined as the shared perception...that individuals in the team will



perform particular actions important to its members and...will recognize and protect the rights and interests of all the team members engaged in their behavior.”<sup>15</sup> Stated another way, without trust, team-members are “unwilling to be vulnerable within the group.”<sup>16</sup> The ability of team members to trust one another enables shared vision, backup behavior, intra-team conflict resolution, and mutual performance monitoring.<sup>17</sup> Barriers to team cohesion come from many directions within the healthcare community, and are compounded by military structure as well.

A primary component of team cohesion is shared accountability. Team members need to feel they each contribute toward the overall attainment of the goal of patient-centered quality care. This requires each team member to feel reward and/or responsibility when success or failure of the outcome occurs. Barriers to shared accountability stem from a perceived lack of respect for others’ roles, and deference in decision making due to hierarchy.<sup>18</sup> Within the primary care team there are hierarchy clashes due to functional specialty differences (physician vs. nurse vs. technician), due to culture or ethnicity (people tend to be more cohesive with like individuals), and gender. Added to this complexity is the military rank hierarchy, which further pulls on team cohesion.

While there are advantages to diversity, such as multiple perspectives in the shared decision making process, the disadvantage is the potential for decreased cohesion.<sup>19</sup> The beauty of multidisciplinary teams is that each member brings a perspective unique to his/her discipline’s culture, but differing healthcare cultures can create competition, as well, which can create territorial disputes, or “not-my-job” issues.<sup>20</sup>

The “Quadruple Aim,” (established by the MHS): “readiness, better care, better health, and better value,”<sup>21</sup> encompasses all of the U.S. recognized goals of healthcare reform, but uniquely adds the fundamental requirement of readiness. The readiness goal is defined not only

as maintaining the medical readiness of the active duty (AD) population, but also in maintaining the medical skills necessary for medics to deploy and provide excellent care across the globe. The need for “ready medical airman” is unique to the MHS and poses a significant team continuity trade-off not seen in private U.S. health systems. Military medics need to maintain currency in skills not typically used in their day-to-day patient care duties as well as participate in a deployment cycle scheduled for 6 out of every 18 months (1:2 dwell).<sup>22</sup> Additionally, each military member and government civilian has training requirements for disaster preparedness as well as general military training. The absolute need for combat capable AF medics is in constant competition with primary care team cohesion.

The inability of providers to delegate can significantly limit their efficiency,<sup>23</sup> and it is estimated that approximately 50 percent of a clinician’s time is expended in tasks that other members of the team can accomplish.<sup>24</sup> Additionally, physicians, in particular, have difficulty trusting elements of care to other team members.<sup>25</sup> This a lack of trust demonstrated by the physician directly pulls at team cohesion. High-performing teams define roles and responsibilities, and require each member’s full participation and understanding of the importance of each person’s responsibilities. Mutual trust is gained by defining these roles and responsibilities, educating all team members on these roles, and holding members accountable. This mutual trust also fosters team “buy-in” to the common goal.<sup>26</sup>

### **Barriers to Communication**

As stated earlier, effective communication is one of the six elements necessary for high-performing primary care teams. With respect to healthcare, this communication is broken down into three main forms: communication between team members, between the team and support

and/or specialty care (also known as care coordination), and most importantly between the patient and the team.

Intra-team communication, requires that two conditions be met, “accessibility to the other members and ability to use appropriate communication skills.”<sup>27</sup> Healthcare staffs recognize that better communication improves decision making and decreases stress.<sup>28</sup> Barriers to effective intra-team communication come in multiple forms. The physical layout of offices often precludes team members from interacting in a meaningful way. The lack of specific time to regroup and feedback or plan the daily events has also been cited as an obstacle to team communication. Finally, there is a significant barrier in team members’ ability to forthrightly discuss daily issues due a perceived lack of respect, ignorance of role, or different styles of relaying information.<sup>29</sup>

The MHS has invested great energy in team communication training since 2006 with the implementation of TeamSTEPPS™. This program was designed to “integrate teamwork into practice...[and] improve the quality, safety, and the efficiency of health care.”<sup>30</sup> A primary focus of TeamSTEPPS™ is fostering direct communication between team members. This training is “comprehensive and generic” and has led to modest, measurable improvement in some patient safety and quality outcomes; however these gains are almost exclusively demonstrated in surgical and in-patient environments.<sup>31</sup> Additionally, the core communication concepts rely on transparent dialogue between team members, which rely on a foundation of team member trust. While the principles of the training are sound, the concepts have a tendency to be overshadowed by the large numbers of acronyms, generality, and perceived lack of applicability to primary care.<sup>32</sup> “Although comprehensive and well-intended, the TeamSTEPPS™ training program illustrates the difficulty with a one-size-fits-all concept of health care teams.”<sup>33</sup>

Care coordination is another vital aspect of healthcare communication and a significant barrier to high performance due to difficulties in tracking the patient through the system, obtaining notes from specialists, and coordinating follow-up care after patients are discharged from inpatient facilities. While the MHS has an advantage in that all military providers use the same electronic health record (EHR) for medical information, significant barriers still remain. The MHS EHR is limited primarily to outpatient visits within the direct care system. Approximately 50 percent of military beneficiary care is delivered through the TRICARE private sector.<sup>34</sup> When patients are referred to this private sector care, there is only a requirement for medical information to be returned to the referring team on the initial consult with the expectation of information to be returned no more than 30 days after the visit.<sup>35</sup> This places increased workload on the primary care teams and the supporting staff (case managers and referral management) to chase the notes in order to allow the team to know the outside recommendations.<sup>36</sup> Notification to the team of a patient's discharge also requires substantial work on the MTF's part and this creates potential for poor hand-off from inpatient to outpatient teams, thus leading to poor outcomes including repeat admission.<sup>37</sup>

Timely and quality communication between the primary care team and the patient is central to high-performing teams. The main barrier in this component of communication is generally perceived to be lack of patient access to his/her provider.<sup>38</sup> During the 2014 MHS review, access to care was one of the main items reviewed. Based on quantitative data, the MHS does a very good job at meeting patient access within the 24-hour, 7-day and 30-day standards for acute, routine and wellness appointments respectively. However, the qualitative information obtained during focus group interviews did not project the same level of satisfaction with access and beneficiaries continue to express concern about the ability to see their team.<sup>39</sup> With the goal

of patient centered healthcare, the patient has to be satisfied with his/her level of communication with the provider/care-team and how this communication is perceived is either a key component, or key barrier, to high-performance.<sup>40</sup>

Access to care does not have to be a face-to-face (F2F) visit with the primary provider, however. HROs such as Group Health and Kaiser Permanente are maximizing methods to provided “enhanced access” through non-provider visits, direct behavioral health access, and secure messaging systems to foster communication and access to the appropriate level of care.<sup>41</sup> The AF has implemented, and is now expanding, the use of a secure messaging, and other non F2F options, and is motivated to maximize enhanced access mechanisms to better enable communication/access between patient and primary care team.<sup>42</sup> However, critical to the use of enhanced access, are the use of standardized protocols to maximize delegation, the level of team adoption of these processes, and the willingness of the patients to use these alternative options.<sup>43</sup>

### **Barriers to Implementation and Adoption**

Air Force primary care teams report they do not have enough time to meet all of the day-to-day requirements.<sup>44</sup> Finding efficiency in the system, overcoming team member reticence to participation, and failure to align incentives with team goals are all barriers to implementation and adoption of high-performance principles.

Systems and protocols, standing orders, patient flow procedures, and pre-formed patient communications are a critical component for high-performing teams.<sup>45</sup> Common barriers to outlining these processes are the time and test clinics necessary to outline the workflows, team-member willingness and familiarization in using the protocols, and adequate training and organizational support for these protocols. Currently, the AF Patient Centered Medical Home (PCMH) system relies on individual MTFs to solicit “best practices” and attempt to implement

these practices at their own site. As of the writing of this paper, the AFMS website has published four approved standardized support staff protocols.<sup>46</sup> The lack of these protocols and/or the lack of MTF time and energy to research and adopt available protocols force each MTF to establish its own system. This means that each time a patient or medic moves within the system, there is a different way of doing business. With just one addition/subtraction to the team, efficiency and cohesion are diminished not only because of interpersonal dynamics, but also from a lack of familiarization with MTF practices. Standardized protocols take time and testing but are key ingredients to establishing consistency, defining team roles, distributing workload and creating efficiencies.<sup>47</sup>

An additional barrier to development of the high-performing teams is member willingness to adopt the key team building blocks. This lack of willingness is in part due to cohesion and communication barriers, but also includes concerns over allowing team members to take on more responsibility, lack of time devoted to the team's education, and limitations or non-familiarity with the technology and workflows designed to improve effectiveness.<sup>48</sup>

Finally, high-performing teams require organizational support to align the goal of patient-centered quality care with team and individual incentives. The MHS has a unique barrier in this regard due to the limitations on incentives based on lack of ability to monetarily. Current policy also requires minimum F2F appointments per provider and there does not appear to be a specific mechanism to reward teams with decreased appointments-per-day if the team is meeting all of its access and quality measures.<sup>49</sup>

With these barriers outlined, it is important to consider adjustments to the current AF primary care construct in order to build consistently high-performing teams into the future AF Medical Home.

## **Creating the Home-field Advantage**

### **The State of the Primary Care Team**

The AFMS has gone to great lengths to establish the Patient Centered Medical Home structure and support in an effort to support the “Quadruple Aim.” Based on the American Academy of Family Physician’s Patient Centered Primary Home model, the newest Air Force Medical Home construct groups providers, medical technicians, nurses and support staff with a fundamental goal of “[provision of] optimal patient-centered care for enrolled patients using evidence-based clinical practice grounded in established population health principles.”<sup>50</sup> In practice, however, team-member continuity remains widely variable due to ancillary training requirements, professional military education, and lack of assigned vs. authorized manpower, etc. The high operation’s tempo has also impacted teams by the AF’s need to deploy its members. The current regulation attempts to stabilize the team by imposing minimum team assignment length, and limits to the percentage of time spent outside of primary clinical duties,<sup>51</sup> however with the constant in/out-flow of personnel due to permanent change of station (PCS), loss of experience due separation or promotion out of the clinic, and readiness requirements, it is expected that manpower turnover and availability will remain a constant impediment to team cohesion and effectiveness.

Current training efforts directed at patient centered care and teamwork are limited to a one-week course developed to teach the fundamentals of PCMH and the mandatory use of TeamSTEPPS™. Realizing the gap in training, AFMS has made the PCMHO course a 2015 priority, and is working to train all new primary care provider and nurse accessions as they come out of initial AF training.<sup>52</sup> A review of the curriculum reveals, however, that the course is primarily an operational view of the PCMH concepts which “explains how the clinical and

administrative concepts work together.”<sup>53</sup> The course does not, however, provide significant hands-on, practical PCMH team process or workflow training. This tactical level of training is a continued gap. Unfortunately, changes to the course are limited by Air Education and Training Command (AETC) doctrine which limits the amount of curriculum change to no more than 20 percent.<sup>54</sup> Until doctrine changes or the course no longer falls under AETC, significant alterations to the curriculum will be limited.<sup>55</sup>

### **Prioritize Standardized Processes and Workflows to Build Trust**

In teamwork, the critical foundation is to develop a level of trust within the team to allow for communication and freedom to provide continuous vertical and horizontal feedback without fear of discounting or reprisal.<sup>56</sup> The minimum level of trust, process trust, is that of trust in how the system works and responsibilities associated with each member’s role.<sup>57</sup> Given the manpower pull on primary care teams, establishing and maintaining personal trust will continue to be difficult. However, if team members enter the team with a strong process trust, the ability to mature trust accelerates. Because of the readiness pull on team continuity, the AF primary care team is best classified as a stable role/variable personnel healthcare team which is more likely to thrive in an environment where “team members understand their teammates task-related expertise and associated task-related constraints...[minimizing] the intra-team conflicts that are detrimental to team effectiveness...because they focus on the task-related behaviors of a role, not the individual.”<sup>58</sup> Therefore, the critical high-performing team competency to establish is enterprise-wide process and workflow standardization.

Standardizing processes allows for better definition of roles, delegation of tasks to the lowest competent level, and improved understanding of each member’s contribution to the goal of quality patient care, thereby raising overall teamwork capabilities.<sup>59</sup> By standardizing the way



calls are handed-off from the appointment clerks to the teams, patients are screened-in, lab results are returned, preventive health screening is reviewed and offered, clinical practice guidelines are documented, daily team meetings are accomplished, etc., the team has an innate level of trust because the process is similar from team-to-team and base-to-base. Establishing this baseline of well designed, tested, logical processes allows for members to rotate in-and-out without overwhelming the overall team dynamic.<sup>60</sup> From this baseline, then, the team can mature to develop a deeper trust allowing for identification of areas for improvement, need for adaptation, and innovation.<sup>61</sup>

The call for standardization has been highlighted by AFMS leaders and is a component of the plan to move toward the AFMH. Specifically, the development of a central innovation node and the clinic innovation, test, and evaluation team (CITE).<sup>62</sup> This author's primary concern is that the current CITE focus is more on innovation than standardization. Again, from the logic of process trust, it is essential that the AF fully invest in development and fielding of standardized processes and workflows first. Once these processes are well established, reverse the concept to allow for field innovation feedback to the centralized clinical innovation node.<sup>63</sup> Standardization becomes the foundation from which teams innovate in their drive for continuous improvement and high quality patient care.

Establishing "buy-in" for standardization from team members is likely to be a challenge. High-performing teams have increased "buy-in" by identifying transformation champions who have a fervent commitment to patient-centered care and who also have the respect of the primary care team members.<sup>64</sup> Having one of these champions at each MTF can rally team members to embrace standardized workflows and enhanced access as well as facilitate learning of new protocols passed down from the CITE. Leveraging these motivated, knowledgeable and well

respected individuals toward the most skeptical members has also helped in overall “buy-in” toward the patient-centered mentality.<sup>65</sup>

### **Targeted Training for High-Performance**

“Teamwork...require[s] cognitive (knowledge), technical (skills), and affective (attitudes) competencies.”<sup>66</sup> The vast majority of medical training is stove-piped within the functional community.<sup>67</sup> Training pipelines allow for development of individual knowledge and skill but rarely provide insight into cross-discipline capabilities. Both TeamSTEPPS™ and the Patient Centered Medical Home Optimization (PCMHO) course are the AFMS’s mechanism to fill this cross-discipline familiarization gap, but, both courses, in current form, are very general and specifically for TeamSTEPPS™ in primary care show only positive, yet temporary, improvement in teamwork attitudes, but have yet to demonstrate significant changes in outpatient safety and quality.<sup>68</sup>

The TeamSTEPPS™ and PCMHO courses should be modified to reflect a primary care, team-centric, tactical operator’s needs. These courses should focus on practical implementation of workflows oriented to the various roles with a concentration on exposure to capabilities and expectations of all team members within a particular process and emphasis on timely, goal-oriented communication. The current operational and strategic structure of the PCMHO should be directed toward leadership to gather organizational support for high-performing teams. While PCMHO is a priority for FY15 military primary care graduate medical education training programs,<sup>69</sup> the current curriculum is still too broad to be of significant value to the residents and these trainees would benefit much more from a tactically oriented curriculum. Finally, MTF leadership must prioritize primary care team-specific training at regular intervals to continue to

build upon the process trust built from standardization with a continued focus on team improvements.<sup>70</sup>

### **Organizational Support for High Performance**

Establishing the “culture of... group accountability”<sup>71</sup> necessary for high-performing teams requires substantial cohesion and an “alignment between incentives and interdependent functions of team members to achieve patient goals.”<sup>72</sup> The active duty military system does not allow for traditional monetary incentives, so it is necessary to find alternative ways to marry quality patient outcomes with primary care team incentives. The most direct mechanisms for reward, then, are promotion and recognition. Currently the feedback/rater system is not usually team aligned. In order for the team to be the primary focus, the team lead should be in the direct rating chain for the core team members. If this is not feasible, it is recommended that formal feedback should have team specific competencies addressed and performance evaluations have the concurrence and/or signature block of the primary care team lead.

The AFMS does have a PCMH recognition award which “recognizes outstanding primary care clinic (Family Health, Pediatrics or Internal Medicine) performance and achievement in the delivery of healthcare in a patient centered medical home during the award period.”<sup>73</sup> It also has awards to recognize clinical nursing excellence, Air Force enlisted members, and provider extenders. This awards program is excellent, but individual criteria require significant volunteer and ‘outside-the-team’ contributions which raise extra hurdles to team continuity due to member desire for personal and professional recognition. In order to maximize “buy-in” to the team, the AFMS should re-write criteria to focus only on team contribution, objective quality metrics, and patient recommendations and satisfaction.<sup>74</sup>

Staff satisfaction surveys for primary care teams reveal that the two largest concerns are the lack of adequate time during the day for patients and all necessary tasks and lack of reasonable workload for role and training.<sup>75</sup> Burn-out is a substantial problem with primary care staff across the healthcare system and new emphasis on taking care of the staff has shown improved patient outcomes.<sup>76</sup> Standardization and improved training should improve both of the above, however, it is also necessary to consider alternatives for F2F requirements as well as reward the team with more time if the overall patient outcome goals are met.

Enhanced access<sup>77</sup> and workload distribution to extended members of the team (the AFMH neighborhood) decreases need for F2F appointments.<sup>78</sup> Enhanced access tools that need to be maximized are secure patient messaging (MyCare), direct use of primary care assigned behavioral health providers, Pharm Ds (pharmacists allowed to run certain medication monitoring programs), health promotion specialists and medical management for group appointments. These programs can all be an area of investigation in the standardized workflows recommended in previous sections of this paper.

Specific to MyCare, the AFMS needs to streamline the process for patient registration and education on the use of this powerful tool. Experience with fielding this tool as well as an informal inquiry of senior officer beneficiaries reveals that the registration process for MyCare is not standardized across MTFs and does not automatically transfer when beneficiaries move. Maximizing use of MyCare will focus efforts on one stream of follow-up communication for standardization. One way of increasing MyCare participation, is to change it from an “Opt-in” process to an “Opt-out” program. Also, the process of patient transfers between MTFs should include a seamless hand-off of the secure messaging system that does not require re-enrollment or active requests on the part of the patient.<sup>79</sup>

Finally, the AFMS needs to reward the teams with time if patient care criteria are met. The AFMS should create a mechanism to remove mandatory F2F appointment minimum schedule requirements when the team has demonstrated meeting patient outcome goals.

## **Recommendations**

In an effort to create the Air Force Medical Home-field advantage (an environment conducive to high-performing primary care teams), the following specific recommendations offered:

- **First recommendation:** fully resource the centralized process and workflow standardization and testing cell to take “best practices” collected over the course of the last two years of PCMH implementation and develop, test, and field role-specific, team-oriented procedures;
- **Second recommendation:** identify strong, experienced, respected teamwork “champions” and place at each MTF in an effort to lead process/workflow adoption;
- **Third Recommendation:** re-evaluate TeamSTEPPS™ training and narrow to the primary care specific teamwork functions and scenarios;
- **Fourth recommendation:** change alignment of PCMHO training to enable rapid and substantial curriculum change;
- **Fifth recommendation:** create and implement the PCMHO tactical operators’ course and use in-residence, traveling programs and the teamwork champions at each MTF to implement the tactical curriculum;

- **Sixth recommendation:** align formal feedback and evaluations under the team leader with maximum emphasis on team-contribution and patient-centered outcomes.

These recommendations capitalize on the current plans of the future for the AFMH and establish a foundation of trust in the system from which more mature team cohesion can develop with the overall outcome of patient-centered, quality care.

## **Conclusion**

The AFMS is dedicated to the Secretary of Defense's call to provide superior care to military members, veterans and their families.<sup>80</sup> Additionally, in order to meet the AF Surgeon General's vision for, "our supported population [to be] the healthiest and highest performing segment of the United States by 2025,"<sup>81</sup> the medical system must first maximize the clinic environment to allow for development and sustainment of high-performing medical teams.

The future environment requires the team to be flexible, to adapt processes to work better, and to provide continuous constructive feedback to each other. High-performing teams share the vision of high quality, high value care because they understand each other's roles and responsibilities and benefit from a mutual trust that allows communication unimpeded by deference to hierarchy or personality. These teams also work from established, proven protocols, which allow members to work to their full capacity and delegation of task to the most appropriate level. A high-performing primary care team has enough internal awareness that the ability to adapt to new circumstances and innovate solutions flows naturally.

The most important steps toward this environment are to maximize process trust through a focus on team roles instead of team personalities. Establishment and fielding of standardized protocols is the start to that process trust. Improved training tools will establish these standards

for roles and responsibilities for all team members, directly improve intra-team cohesion, and decrease AFMS-wide healthcare delivery variance. Finally, aligning team and team member incentive and accountability to outcomes will further propel these teams toward continuous improvement. Once the Air Force Medical Home-field advantage is set and primary care teams increase their high-performing characteristics across the enterprise, a high-reliability organization is sure to follow.



## Notes

1. Linda Kohn, Janet Corrigan, and Molla Donaldson. Eds. *To Err is Human: Building a Safer Health System*. Institute of Medicine Report, Washington DC, National Academies, 2000.
2. Agency for Healthcare Research and Quality, "A Decade of Evidence, Design, and Implementation: Advancing Patient Safety," <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/advancing-patient-safety/index.html>.
3. Scott Bronstein and Drew Griffin, "A Fatal Wait: Veterans Languish and Die on a VA Hospital's Secret List," *CNN*, 23 Apr 2014, <http://www.cnn.com/2014/04/23/health/veterans-dying-health-care-delays>.
4. Department of Defense, "Military Health System Review – Final Report." *U.S. DoD*, 01 October 2014, 1.
5. *Ibid.*, 1.
6. David P. Baker, Rachel Day, and Eduardo Salas. "Teamwork as an Essential Component of High Reliability Organizations," *Health Services Research*, 41, no. 4 part 2 (2006), 1576.
7. Donald Berwick, Thomas Nolan and John Whittington, "The Triple Aim: Care, Health, and Cost," *Health Affairs*, 27, no. 3 (2008), 760.
8. Baker, "Teamwork as an essential component," 1576.
9. Marci Nielsen, et al, *The Patient-Centered Medical Home's Impact on Cost and Quality: An Annual Update of the Evidence, 2013-2014*, Patient-Centered Primary Care Collaborative (2014), 6-7.
10. Quoted in Col Francis Holland, "Patient Centered Medical Home (PCMH) Update," lecture, Intermediate Executive Skills, Washington, D.C., September 2014.
11. Kevin Grumbach and Thomas Bodenheimer, "Can Health Care Teams Improve Primary Care Practice?" *JAMA*, 2004, 1247.
12. note. These elements were identified in the following sources: (1) Grumbach and Bodenheimer, "Can Health Care Teams Improve", 1246-1251. (2) Beaulieu et al., "Providing High Quality Care in Primary Care Settings," *Canadian Family Physician*, e285. (3) Thomas Bodenheimer, "Building Teams in Primary Care: Lessons Learned," (Oakland): California HealthCare Foundation 2007, 6. (4) Joan Sargeant, Elaine Loney, and Gerard Murphy, "Effective Interprofessional Teams: 'Contact Is Not Enough' to Build a Team," *Journal of Continuing Education in the Health Professions*, 28(4), 230.
13. Andreas Xyrichis, "What Fosters or Prevents Interprofessional Teamworking in Primary and Community Care? A Literature Review," *International Journal of Nursing Studies* 45, (2008), 151. And Sargeant, "Effective Interprofessional Teams," 233.
14. note. Effective team work barriers were identified in the following references: (1) Lonica Vanclay, "Team-working in Primary Care," *Journal of the Royal Society of Medicine*, 90 (1997), 268. (2) Bodenheimer, "Building Teams in Primary Care...", 10. (3) Stephen Taplin et al., "Organizational Leadership for Building Effective Health Care Teams," *Annals of Family Medicine*, 11, no. 3 (2013), 280. (4) Xyrichis, "What Fosters or Prevents Interprofessional Teamworking," 140. And (5) Sargeant, "Effective Interprofessional Teams," 232-233.
15. Quoted in Eduardo Salas, et al., "Is There a 'Big Five' in Teamwork?" *Small Group Research*, 36, no. 5 (October 2005); 568-569.
16. Patrick M. Lencioni, *The Five Dysfunctions of a Team, A Leadership Fable* (San Francisco, CA: Jossey-Bass, 2002), 188.



17. Quoted in Baker et al., "Teamwork as an essential component," 1583.
18. Ibid., 1579.
19. Lawton Robert Burns, Elizabeth H. Bradley and Bryan Jeffrey Weiner, ed., *Healthcare Management: Organization Design & Behavior* (Delmar, 2011), 131.
20. Gigi Sutton, "Evaluating Multidisciplinary Health Care Teams: Taking the crisis out of CRM," *Australian Health Review*, 33(3), 447.
21. AFMS Strategy 2.5, <https://kx2.afms.mil/kj/kx8/AFMSSStrategyMgmt/Pages/home.aspx>.
22. Air Force Instruction (AFI) 41-106, *Medical Readiness Program Management*. 22 April 2014, 6.
23. Kevin D. Hopkins and Christine A. Sinsky, "Team-Based Care: Saving Time and Improving Efficiency," *Family Practice Management*, Nov/Dec 2014, 24.
24. Bodenheimer, "Building Teams in Primary Care...", 7.
25. Hopkins and Sinsky, "Team-Based Care...", 27.
26. William K. Bleser et al., "Strategies for Achieving Whole-Practice Engagement and Buy-in to the Patient-Centered Medical Home," *Annals of Family Medicine* 12, no. 1 (Jan/Feb 2014), 43.
27. Sargeant, "Contact Is Not Enough," 232.
28. Pamela A. Ohman-Strickland et al., "Measuring Organizational Attributes of Primary Care Practices: Development of a New Instrument," *Health Services Research* 42, no. 3 (June 2007), 1265.
29. Grumbach and Bodenheimer, "Can Health Care Teams Improve Primary Care Practice?" 1249.
30. Heidi B. King et al., "TeamSTEPPS™: Team Strategies and Tools to Enhance Performance and Patient Safety," Online document (Falls Church, VA 2008), <http://www.ncbi.nlm.nih.gov/books/NBK43686/>, 1.
31. note. This information was synthesized from two sources: (1) Eric J. Thomas, "Improving Teamwork in Healthcare: Current Approaches and the Path Forward," (Commentary), *BMJ Quality and Safety* 20, no. 8 (August 2011), 648. Thomas's work discussed the risk/benefit of team training programs. And (2) Sallie J. Weaver, Sydney Dy and Michael Rosen, "Team-training in Healthcare: A Narrative Synthesis of the Literature," *BMJ Quality & Safety* (Online First): 5 Feb 2014, 6-7. Weaver's work discusses the evidence surrounding the improvement of patient quality measures. Her work show positive outcomes in in-patient and surgical studies, however the review for outpatient facilities shows positive outcome to team attitudes after training, but no specific patient outcome data.
32. note. The dangers of the general scope of TeamSTEPPS are discussed in Thomas, "Improving Teamwork" commentary addressed above. The lack of applicability is based on this authors experience with this training in ambulatory care since 2008. Review of the AHRQ website reveals that there is now a course being offered in ambulatory medicine for TeamSTEPPS, but this author was unable to find any outcome data to determine if this was a more successful approach for primary care teams.
33. Pamela B. Andreatta, "A Typology for Health Care Teams," *Health Care Management Review* 35, no. 4 (2010), 352.
34. Department of Defense, "Military Health System Review," 20.
35. note. The source for initial referral documentation retrieval was found in Air Force Instruction (AFI) 44-176, *Access to Care Continuum*. 30 October 2014, 22. The source for

timing was found in HQ USAF/SGSA, "MTF Referral Management Center (RMC) Users' Guide," at: [www.tricare.mil/tma/tai/downloads/ref.doc](http://www.tricare.mil/tma/tai/downloads/ref.doc).

36. Pamela L. Dolan, "PCMH: How to Make Care Coordination Work," *Medical Economics*, 23 May 2014, 19.

37. Brett White et al., "Reducing Hospital Readmissions Through Primary Care Practice Transformation," *The Journal of Family Practice* 63, no. 2 (February 2014): 71.  
[http://www.jfponline.com/index.php?id=21643&cHash=071010&tx\\_ttnews\[tt\\_news\]=234393](http://www.jfponline.com/index.php?id=21643&cHash=071010&tx_ttnews[tt_news]=234393).

38. Paul Nutting et al., "Continuity of Primary Care: To Whom Does It Matter and When?" *Annals of Family Medicine* 1, no. 3 (Sep/Oct 2003): 149.

39. Department of Defense, "Military Health System Review," 4.

40. Nutting, "Continuity of Primary Care," 153.

41. note. Examples of HROs using enhanced access: (1) Clarissa Hsu et al., "Spreading a Patient-Centered Medical Home Redesign," *Journal Ambulatory Care Management* 35, no. 2, 105. (2) McCarthy, "Kaiser Permanente: Bridging the Quality," 8-13.

42. note. Enhanced access is addressed in Col Holland's "PCMH Update" lecture and focus on enhanced access was also addressed in email traffic between Ms. Lamoureux and the author, Dec 2014.

43. David Twiddy, "Removing Six Key Barriers to Online Portal Use," *Family Practice Management*, Jan/Feb (2015), 27.

44. Col Holland, "PCMH Update," lecture.

45. Grumbach and Bodenheimer, "Can Health Care Teams Improve," 1249.

46. note. AF Knowledge Exchange, "Support Staff Protocols and Resources" web page, <https://kx2.afms.mil/kj/kx5/AFMOANursingProvisionofCare/Pages/ssp-and-resources.aspx>. The Knowledge Exchange also has a PCMH website which lists "best practice" information for MTFs to attempt to incorporate.

47. note. Examples of HROs using standardized processes are given in: (1) Hsu et al., "Spreading a Patient-Centered Medical Home Redesign," 101-102. (2) Douglas McCarthy, Kimberly Mueller and Jennifer Wrenn, Commonwealth Fund Case Study, "Kaiser Permanente: Bridging the Quality Divide with Integrated Practice, Group Accountability, and Health Information Technology," 11-12.

48. note. Technology concerns are addressed in Twiddy, "Removing Six Key Barrier," 27. Hesitancy of members to change is addressed in Bleser, "Strategies for Achieving Whole-Practice Engagement," 41.

49. Air Force Instruction (AFI) 44-171, *Patient Centered Medical Home Operations*, 28 November 2014, 25.

50. Ibid., 5.

51. Ibid., 11.

52. note. Gloria Lamoureux, Patient Centered Medical Home Senior Consultant, to the author, email, 15 December 2014 note. Also, the "road show" is a 4-day course that travels to different Military Treatment Facilities and allows PCMH team members to get an overview of the elements of PCMH.

53. "Patient Centered Medical Home Operations", pamphlet (San Antonio, TX 2013), <https://kx.afms.mil/pcmho>.

54. Lamoureux, to the author, email, 15 December 2014.

55. Ibid.

56. Lencioni, *The Five Dysfunctions of a Team*, 188.
57. Stefan Eisen Jr., *Practical Guide to Negotiating in the Military* (2nd edition). Air Force Negotiation Center, 2013, <http://culture.af.mil/NCE/PDF/pracguide2011.pdf>, 10.
58. Andreatta, "A Typology for Health Care Teams," 351.
59. Hsu et al., "Spreading a Patient-Centered Medical Home Redesign," 101.
60. Andreatta, "A Typology for Health Care Teams," 351.
61. Ibid., 350-351.
62. Col Todd Baker, "Human Performance CONOPS, NOVA Update," lecture (NOVA), Washington, D.C., August 2014.
63. note. In Hsu et al., "Spreading a Patient-Centered Medical Home Redesign," 102. Group Health initially developed standardized workflows and disseminated to all PCMH teams. Once these protocols/workflows were well established, clinics began to innovate and modify processes for their unique situations.
64. Bleser et al., "Strategies for Achieving Whole-Practice Engagement," 41.
65. Ibid., 41.
66. Sargeant, "Contact Is Not Enough," 233.
67. Vanclay, "Team-working in primary care," 269.
68. Thomas, "Improving Teamwork in Healthcare," 647.
69. Lamoureux to the author, email, 10 Dec 14.
70. note. Sargeant, "Contact Is Not Enough," 233, discusses the need for frequent team based training to reinforce the attitudes necessary for high performing teams. Additionally, Thomas's, "Improving teamwork in healthcare," also discusses the need to continue teamwork specific training throughout the continuum to build and reinforce communication skills to improve team efficacy.
71. McCarthy, "Kaiser Permanente: Bridging the Quality Divide," pg 10.
72. Taplin, "Organizational Leadership for Building Effective Health Care Teams," 280.
73. Air Force Instruction (AFI) 36-2856, *Medical Services Awards*, 22 Oct 2012.
74. note. Healthcare Effectiveness Data and Information Set (HEDIS) are outcome measures used by the USAF as well as many organizations in the U.S. private sector to determine quality of care. HEDIS information can be obtained through National Committee for Quality Assurance (NCQA)'s, HEDIS and Performance Measurement webpage at <http://www.ncqa.org/HEDISQualityMeasurement.aspx>.
75. note. Holland, "PCMH Update," lecture, September 2014. Team satisfaction results revealed, 60% negative rating in Family Health (FH) of adequate time during the day for patients and all necessary tasks and 46% negative rating in FH for lack of reasonable workload for role and training.
76. Thomas Bodenheimer and Christine Sinsky, "From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider," *Annals of Family Medicine* (12), no. 6, Nov/Dec 2014, 573.
77. Holland, "PCMH Update," lecture, September 2014.
78. Hsu et al., "Spreading a Patient-Centered Medical Home Redesign," 105.
79. note. Currently, each time a family moves within the system, they are asked if they would like to enroll in MyCare. The process requires electronic request by the member (each member age 18 and over), a response by the facility and then an acceptance by the member. Transfer is often problematic. Given all AFMS institutions use the same messaging system, it seems

reasonable that the process can be handed off without the patient expending effort with each move.

80. Patricia Kime, "Report: Military Hospitals Show Broad Disparities in Patient Care," *Army Times*, 1 Oct 2014,

<http://archive.armytimes.com/article/20141001/BENEFITS06/310010066/Report-Military-hospitals-show-broad-disparities-patient-care>.

81. See note 10.



## Bibliography

- AF Knowledge Exchange. "Patient Centered Medical Home Operations." *PCMHO*. 2013.  
<https://kx.afms.mil/pcmho>.
- . *Support Staff Protocols and Resources*. 2014.  
<https://kx2.afms.mil/kj/kx5/AFMOANursingProvisionofCare/Pages/ssp-and-resources.aspx>.
- AF/SG8X. "Air Force Medical Service Strategy 2.5." *AFMS Knowledge Exchange*. September 22, 2014. <https://kx2.afms.mil/kj/kx8/AFMSStrategyMgmt/Pages/home.aspx> (accessed November 01, 2014).
- Agency for Healthcare Research and Quality. "A Decade of Evidence, Design, and Implementation: Advancing Patient Safety." *Agency for Healthcare Research and Quality*. September 2012. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/advancing-patient-safety/index.html>.
- Air Force Instruction (AFI) 36-2856. "Medical Services Awards." 22 October 2012.
- Air Force Instruction (AFI) 41-106. "Medical Readiness Program Management." 22 April 2014.
- Air Force Instruction (AFI) 44-171. "Patient Centered Medical Home Operations." 28 November 2014.
- Air Force Instruction (AFI) 44-176. "Access to Care Continuum." 30 October 2014.
- Andreatta, Pamela B. "A Typology for Health Care Teams." *Health Care Management Review*, 2010: 345-354.
- Baker, Col Todd. "Human Performance CONOPS, NOVA Update." *NOVA Conference*. Washington DC, 20 August 2014.
- Baker, David P., Rachel Day and Eduardo Salas. "Teamwork as an Essential Component of High Reliability Organizations." *Health Services Research*, 2006: 1576-1598.
- Beaulieu, Marie-Dominique, Robert Geneau, Claudio Del Grande, Jean-Louis Denis, Eveline Hudon, Jeannie Haggerty, Lucie Bonin, Rejean Duplain, Johanne Goudrea and William Hogg. "Providing High-Quality Care in Primary Care Settings: How to Make Trade-Offs." *Canadian Family Physician* 60 (2014): e281-e289.
- Berwick, Donald M., Thomas Nolan, and John Whittington. "The Triple Aim: Care, Health and Cost." *Health Affairs* 27, no. 3 (2008): 759-769.

- Bleser, William K, Michelle Miller-Day, Dana Naughton, Patricia L. Bricker, Peter F. Cronholm, and Robert A. Gabbay. "Strategies for Achieving Whole-Practice Engagement and Buy-in to the Patient-Centered Medical Home." *Annals of Family Medicine* 12, no. 1 (January/February 2014): 37-45.
- Bodenheimer, Thomas and Christine Sinsky. "From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider." *Annals of Family Medicine* 12, no. 6 (November/December 2014): 573-576.
- Bodenheimer, Thomas. "Building Teams in Primary Care: Lessons Learned." *California HealthCare Foundation*. July 2007.  
<http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/B/PDF%20BuildingTeamsInPrimaryCareLessons.pdf> (accessed November 2014).
- Bronstein, Scott and Drew Griffin. "A Fatal Wait: Veterans Languish and Die on a VA Hospital's Secret List." *CNN*, April 23, 2014.
- Burns, Lawton Robert, Elizabeth H. Bradley and Bryan Jeffrey Weiner, eds. *Healthcare Managemetn: Organization Design & Behavior*. Sixth. Clifton Park, NY: Delmar, 2011.
- Cornum, Brig Gen Kory. "Update from the Field: The Base Operational Medical Cell (BOMC)." *Flightlines*, Winter 2014: 5-7.
- Department of Defense. *Military Health System Review - Final Report*. Washington D.C.: U.S. DoD, 01 October 2014.
- Dolan, Pamela L. "PCMH: How to make care coordination work." *Medical Economics*, May 25, 2014: 17-21.
- Eisen, Stefan. *Practical Guide to Negotiating in the Military*. 2nd. Montgomery, AL: USAF Negotiation Center of Excellence, 2013.
- Green, Charles B. "The Air Force Medical Service — What's next." *U.S. Medicine*, 2011: 22-25.
- Grumbach, Kevin and Thomas Bodenheimer. "Can Health Care Teams Improve Primary Care Practice?" *JAMA*, 2004: 1246-1251.
- Holland, Col Francis. "Patient Centered Medical Home (PCMH) Update." *Intermediate Executive Skills Conference*. Washington D.C., September 2014.
- Hopkins, Kevin D., and Christine A. Sinsky. "Team-Based Care: Saving Time and Improving Efficiency." *Family Practice Management*, 2014: 23-29.
- HQ USAF/SGSA. *MTF Referral Management Users' Guide*. November 30, 2003.



- Hsu, Clarissa, Tyler Ross, Paul Fishman, David Liss and Roert Reid. "Spreading a Patient-Centered Medical Home Redesign-A Case Study." *Journal of Ambulatory Care Management* 35, no. 2 (April-June 2012): 99-108.
- Kime, Patricia. "Report: Military Hospitals Show Broad Disparities in Patient Care." *ArmyTimes*, October 01, 2014.
- King, Heidi B., James Battles, David P. Baker, Alexander Alonso, Eduardo Salas, John Webster, Lauren Toomey, and Mary Salisbury. *TeamSTEPPS(TM): Team Strategies and Tools to Enhance Performance and patient Safety*. Falls Church, VA, 2008.
- Kohn, Linda T., Janet M. Corrigan, and Molla S. Donaldson. eds. *To Err is Human: Building a Safer Health System*. Institute of Medicine Report, National Academies, 2000.
- Lamoureux, G., Patient Centered Medical Home Senior Consultant. To the author. December 10 and 15, 2014.
- Lencioni, Patrick M. *The Five Dysfunctions of a Team, A Leadership Fable*. San Francisco: Jossey-Bass, 2002.
- McCarthy, Douglas, Kimberly, Mueller, and Wrenn, Jennifer. *Kaiser Permanente: Bridging the Quality Divide with Integrated Practice, Group Accountability, and Health Information Technology*. Case Study: Organized Health Care Delivery System, New York City: Commonwealth Fund, 2009.
- National Committee for Quality Assurance. *HEDIS and Performance Measurement*. 2014. <http://www.ncqa.org/HEDISQualityMeasurement.aspx>.
- Nielsen, Marci, J. Nwando Olayiwola, Paul Grundy and Kevin Grumback. *The Patient-Centered Medical Home's Impact on Cost & Quality: An Annual Update of the Evidence, 2012-2013*. Washingto D.C: Patient-Centered Primary Care Collaborative, 2014.
- Nutting, Paul A., Meredith A. Goodwin, Susan A. Flocke, Stephen J. Zyzanski, Kurt C. Stange. "Continuity of Primary Care: To Whom Does It Matter and When?" *Annals of Family Medicine* 1, no. 3 (2003): 149-155.
- Nutting, Paul A., William L. Miller, Benjamin F. Crabtree, Carlos Roberto Jaen, Elizabeth E. Stewart, and Kurt C. Stange. "Initial lessons from the first national demonstration project on practice transformation to a patient-centered medical home." *The Annals of Family Medicine* 7, no. 3 (2009): 254-260.
- Ohman-Strickland, Pamela A., et al. "Measuring Organizational Attributes of Primary Care Practices: Development of a New Insurment." *Health Services Research* 42, no. 3 (June 2007): 1257-1273.

- Salas, Eduardo, Dana Sims and C. Shawn Burke. "Is There a "Big Five" in Teamwork." *Small Group Research* 36, no. 5 (2005): 555-599.
- Sargeant, Joan, Elaine Loney, and Gerard Murphy. "Effective Interprofessional Teams: "Contact Is Not Enough" to Build a Team." *Journal of Continuing Education in the Health Professions* 28, no. 4 (2008): 228-234.
- Sutton, Gigi. "Evaluating Multidisciplinary Health Care Teams: Taking the Crisis Out of CRM." *Australian Health Review* 33, no. 3 (2009): 445-452.
- Taplin, Stephen H., Mary K. Foster, and Stephen M. Shortell. "Organizational leadership for building effective health care teams." *The Annals of Family Medicine* 11, no. 3 (2013): 279-281.
- Thomas, Eric J. "Improving Teamwork in Healthcare: Current Approaches and the Path Forward." *BMJ Quality and Safety*, 2011: 647-650.
- Travis, Thomas W. Lt. Gen (Dr.). *From Health Care to Health & Performance: The Future of Air Force Medicine*. Northern Virginia, August 2014.
- Twiddy, David. "Removing Six Key Barriers to Online Portal Use." *Family Practice Management*, 2015: 27-31.
- Vanclay, Lonica. "Team-working in Primary Care." *Journal of the Royal Society of Medicine* 90 (May 1997): 268-270.
- Weaver, Sallie J., Sydney Dy and Michael Rosen. "Team-Training in Healthcare: A Narrative Synthesis of the Literature." *BMJ Quality & Safety* (published online, February 2014: 1-14.
- White, Brett, Patricia Carney, Jessie Flynn, Miguel Marino and Scott Fields. "Reducing Hospital Readmissions Through Primary Care Practice Transformation." *The Journal of Family Practice*, 2014: 67-74.
- Xyrichis, Andreas and Karen Lowton. "What Fosters or Prevents Interprofessional Teamworking in Primary and Community Care? A Literature Review." *International Journal of Nursing Studies* 45 (2008): 140-153.